COMPLETE LISTING OF CLAIMS

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

Claims 1-6 (withdrawn)

Claim 7 (previously presented) A heat sink assembly for an electrical component, comprising:

a plurality of graphite components, each graphite component being individually formed form graphite materials comprising compressed particles of expanded graphite, the plurality of graphite components including:

a base constructed for heat transfer connection to the electrical component;

a plurality of fins; and

the base and the fins being assembled together so that a heat transfer path between the electrical component and each of the fins includes at least one interface between abutting surfaces of two of the graphite components, the two graphite components being bonded together at the interface.

Claim 8 (canceled)

Claim 9 (previously presented) The assembly of claim 7, wherein the graphite material is a flexible sheet graphite material.

Claim 10 (previously presented) The assembly of claim 7, wherein the graphite material is a resin impregnated anisotropic flexible graphite sheet.

Claim 11 (original) The assembly of claim 7, wherein:

the graphite materials are resin impregnated graphite materials; and

the bond at the interface of the two graphite components is a bond of the resin formed by curing the resin after the graphite components are clamped together at the interface.

Claims 12-14 (withdrawn)

Claim 15 (previously presented) A heat sink apparatus for an electronic component, comprising:

a base constructed from a first graphite material; and

a plurality of elongated fins, each fin extending at least partially into the base, the plurality of fins each having a length extending away from the base parallel to each other, each fin being constructed of a second graphite material comprising compressed particles of expanded graphite including graphene layers aligned in planes parallel to the length of the fins.

Claim 16 (original) The apparatus of claim 15, wherein:

the fins are formed by rolling down and compacting an anisotropic flexible graphite sheet between shaped rollers to align the graphene layers in planes parallel to the length of the fins.

Claim 17 (original) The apparatus of claim 15, wherein:

the fins each have a thermal conductivity parallel to their length substantially greater than a thermal conductivity of the fins perpendicular to their length.

Claim 18 (original) The apparatus of claim 15, wherein:

each of the fins has a rounded shaped cross-section perpendicular to its length.

Claim 19 (original) The apparatus of claim 15, wherein:

the base includes a plurality of stacked base pieces having complementary recesses formed therein, so that the recesses of two adjacent stacked base pieces are aligned to define openings through the base, each opening being shaped to closely receive one of the fins therein.

Claim 20 (original) The apparatus of claim 19, wherein:

the base pieces and the fins are bonded together by clamping the base pieces and fins together and then curing the base pieces and fins to create a bond therebetween.

Claim 21 (original) The apparatus of claim 19, wherein the base comprises:

first and second opposite planar sides, the fins extending from the first planar side of the base with the length of the fins oriented perpendicular to the first planar side; and

a thermal interface formed from a sheet of anisotropic flexible graphite material spanning the base pieces and defining the second planar side of the base.

Claim 22 (original) The apparatus of claim 21, wherein:

the base pieces are constructed from a resin impregnated graphite sheet material; and

the thermal interface is constructed from an unimpregnated graphite sheet material.

Claim 23 (original) The apparatus of claim 19, wherein:

the base pieces are formed by rolling down and compacting an anisotropic flexible graphite sheet between shaped rollers to align the graphene layers in planes parallel to the lengths of the fins.

Claim 24 (original) The apparatus of claim 19, wherein the plurality of stacked base pieces comprises: two end base pieces, each having the recesses on only one side thereof; and at least one intermediate base piece having the recesses on two opposite sides thereof.

Claim 25-26 (withdrawn)

Claim 27 (original) The apparatus of claim 15, wherein:

the base includes a thermal interface formed from a sheet of anisotropic flexible graphite material bonded to the base on a side of the base opposite the fins.

Claim 28 (original) The apparatus of claim 15, wherein:

the first and second graphite materials from which the base and fins are constructed are both epoxy resin impregnated graphite materials.

Claims 29-34 (withdrawn)